Acton Survey & Engineering, Inc.
Since 1967

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ASE 6055

December 14, 2011

Acton Engineering Department
427 Main Street
Acton, MA 01720

Re: Old Mill Development Trust
65 Powder Mill Road a/k/a 40 Sudbury Road
SPSP 7/6/2011-433

Gentlemen:

Thank you for the opportunity to meet with you to discuss our design for our client's building off of Sudbury Road.

This letter will only present information concerning items which appeared, from our conversation, to require the provision of additional information by this office, and will be keyed to the numbering of your IDC.

ITEM 6: The nearest hydrant in Acton has been identified by you as being on Sudbury Road opposite Westside Drive, and as being over 500 feet from the site. Hydrants are being installed at the adjacent apartment complex in Concord. Construction of the Concord site is ongoing and we assume that fire suppression flows will be available from Concord.

ITEM 15: Spot grades will be added between the parking lot and Concord to assure that runoff is retained on the parking lot and flows to the stormwater management works.

ITEM 17: Runoff from the existing parking lot on the Northstar building site flows to an existing catch basin at the end of the parking lot near the property line with our site. The note requiring that a pavement high point be established to preclude runoff from that property flowing onto the site under review is to insure existing drainage patterns remain.

ITEM 24: The "storage system connection" that also serves to collect roof runoff from the front of the building will be shown on the Detail Site Plan (Sheet 2/5).

ITEM 25: The graphical representation of the concrete curb extending out from the building will be changed to assure that it will be interpreted as being uninterrupted.

ITREM 31: Our research has found several porous pavement details from credible sources showing the stone reservoir being placed directly under the porous bituminous concrete. The stone reservoir consists of a "choker layer" of ½ inch stone over a layer of coarser stone. The purpose of the ½ inch stone layer is to entrap fines near the surface of the pavement to allow their removal by vacuum sweeping. We expect that the ½ inch stone will not entrap fines and they will migrate to the bottom

of the coarser stone reservoir and cause the system to fail. Most of these details also show the installation of non-woven geotechnical fabric at the porous pavement system/in-situ material interface, which makes the details less credible.

We could not locate the source of the detail we utilized in order to prepare this letter in a timely manner. We will forward you a copy once we have located it.

The enclosed detail from UNHSC shows the reservoir course below the gravel subbase. We believe that it is important that the gravel subbase be placed between the porous pavement and the reservoir to retain fines near the pavement where they can be removed by vacuum sweeping.

Gravel subbase is classified as sand and is assigned an infiltration rate of 8.27 inches per hour by the Massachusetts Stormwater Handbook. It will adequately transfer water from the porous pavement to the reservoir materials. At this site, only precipitation falling directly on the pavement is required to be infiltrated.

The detail will be modified as required.

Summary

We believe that all other items in your IDC have been addressed by the plan revisions of 11/16/11. If not please inform us so that they can be properly addressed.

Very truly yours,

Mark T. Donohoe, PE
for: Acton Survey & Engineering, Inc.

cc: Leo Bertolami
Richard A Nylen, Esq.
Board of Selectmen
Planning Department

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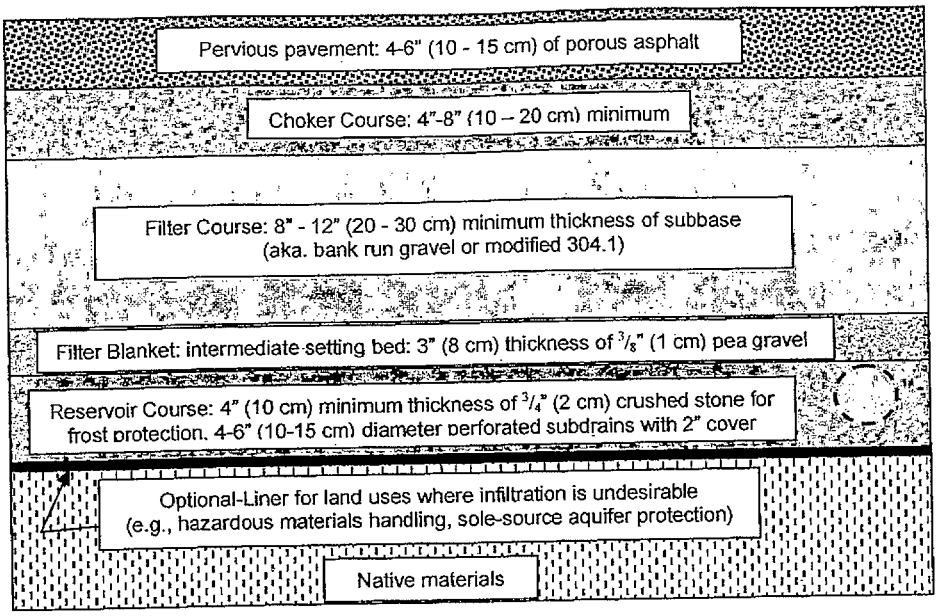
Pervious pavement: 4-6" (10 - 15 cm) of porous asphalt
Choker Course: 4"-8" (10 – 20 cm) minimum
Filter Course: 8" - 12" (20 - 30 cm) minimum thickness of subbase
(aka. bank run gravel or modified 304.1)
Filter Blanket: intermediate setting bed: 3" (8 cm) thickness of 3/8" (1 cm) pea gravel
Reservoir Course: 4" (10 cm) minimum thickness of 3/4" (2 cm) crushed stone for
frost protection. 4-6" (10-15 cm) diameter perforated subdrains with 2" cover
Optional-Liner for land uses where infiltration is undesirable
(e.g., hazardous materials handling, sole-source aquifer protection)
Native materials